COMMONWEALTH OF MASSACHUSETTS
DEPARTMENT OF TELECOMMUNICATIONS AND ENERGY

RESPONSE OF BAY STATE GAS COMPANY TO THE
FIRST SET OF INFORMATION REQUESTS FROM D.T.E.
D.T.E. 02-75

Date: April 2, 2003

Witness Responsible: William Gresham

DTE 1-13: Regarding the econometric method and models presented in the Schedule BSG-III-2 of the Company's filing, please:

(a) discuss the steps followed by the Company to reach the final and presented model specification;
(b) indicate the statistics used by the Company to evaluate and select the final model specification, present those statistics;
(c) discuss the rationale for keeping one independent variable as the explanatory variable in the final and presented econometric models.

RESPONSE: (a) Each model was evaluated for explanatory power or goodness of fit, contribution and significance of independent variables, and serial correlation. Explanatory power was evaluated with R-squared, variable significance with t-statistic, and serial correlation with the Durbin-Watson statistic. The statistics are presented in Schedule BSG-III-2 of the Company's filing.

(b) R-squared was used to determine if one model specification provided more explanatory power for variations about the mean of the data than another model. If two models had comparable t-statistics for similar variables and comparable Durbin-Watson statistics, the model with the higher R-squared (more explanatory power) would be chosen.

(c) As a general rule, t-statistics of 2 or more are considered very significant. If a variable exhibited lesser significance (e.g. –0.5 for the trend variable in the Brockton Residential General Use per Meter), it remained in the model because it was deemed appropriate. In this case, an observed trend (albeit small) was included to capture effects that would likely continue. These could include increasing energy efficiency of end uses or the addition of customers whose usage is less than the current average customer.

The Durbin-Watson statistic is used to detect first order serial correlation. Ordinary least squares regression assumes that error terms are independent. If the error term in an observation is significantly correlated to the error term in the following observation, independence is in question. As a general rule, Durbin-Watson statistics around +2.0 are considered good. A serial correlation correction routine was used whenever this statistic seemed unreasonable.